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greenhouse (March 6th) he would say "these are all one." The florist would want to keep them separate, and give them separate names, for the rounder one is by far the most showy. The forms of the same species open their flowers almost simultaneously. Flowers on different plants will open on almost the same day of the month. Then again the numerical order in which they appear in the axils of the tubercles is a good specific point. Counting from the uppermost tubercle on which the bundle of spines seems fully formed, and following the spiral down, the flowers will sometimes come from the axil of the second, or of the third, the fourth, or the fifth. Sometimes there will be two circles of flowers. In this Heyderi and "forms" there are three circles, from the second, third, and fourth.

The point I desire to make in this note is that cacti are not only hard to determine, but harder than we have been led to believe them; that in all probability characters that we have depended on as distinguishing, are of less value than has been assumed; and that those who find new "forms" should hesitate considerably before loading science with a heavy burden of synonyms. There was one special lesson of interest from the study of these two forms of Mammillaria. Everyone knows that the fronds or joints in Opuntia are not always of uniform shape on the same plant. One generally with an almost orbicular section will sometimes have sections much elongated. I have noted on Opuntia Rafinesquii, that when the frond is elongated, the ovarium is elongated and the petals are more slender. Elongation goes through the whole morphological course. This experience is repeated here; the more elongated plant has longer and more slender sepals and petals, and longer and more slender stigma-lobes.

THOMAS MEEHAN.

EDITORIAL.

IT IS TIME for botanists to be looking forward to their meeting at Buffalo next August. Those who were present at Ann Arbor can bear testimony that they spent a delightful time together, that they were stimulated in their work, and that the year that has elapsed since has felt the constant influence. The personal friendships formed at such a time are not only pleasant to remember, but exceedingly profitable. As Buffalo is more centrally located, and as there are many botanical reminiscences connected with it, we expect even a larger attendance than at Ann Arbor. The Botanical Club has grown into a very vigorous life, not so much on account of its organization, for it has none, but on account of its informality, the strong bond holding it well together being a community of sentiment. As many botanists will come to Buffalo with the warm feelings aroused by the companionship of the last few years, and as there is an active local botanical society, we may all expect a week of great enjoyment and profit. Arrangements will be made for meetings and excursions, and abundant opportunity given for talks in the herbarium and in the field. We bespeak thus early a large attendance, that plans for the summer may be made to include a week at Buffalo, beginning August 18. One feature of the Club meetings can be spoken of now. The June GAZETTE will be an herbarium

number, devoted to the collection and preservation of plants, but it is found almost impossible to describe portfolios, presses, cabinets, etc., so as to be well understood, without taking too much space. Therefore, at the coming meeting, an evening will be set apart for an exhibition of the appliances of botanical work, such as portfolios, presses, the most effectual poison, the best mode of glueing, the quality, size and cost of genus covers and herbarium sheets, the best size and form of labels, the best form of cabinets for security of contents and ease of referring to them, etc., etc. As botanists will have in most cases their portfolios and presses with them, a comparison of these will be easy, and a discussion of the subject generally will result in much advantage to the fraternity, in bringing about uniformity of action and in saving of money and time. A full account of what botanists may expect at Buffalo will be given in our July number.

THE BOTANISTS of the country may well ask themselves if they take the interest in the government support of botanical work that the importance of the matter deserves. We venture to say that barely a dozen botanists outside of Washington are aware that the "Botanical Division" and "Mycologic Section" of the Department of Agriculture are purely hypothetical departments without official recognition. To be sure the commissioner is allowed a botanist and assistant botanist, and the work goes on the same as in the days when there was an officially recognized Botanical Division, but not much growth can take place under these conditions. Did the law-makers appreciate the important relations of modern botany to the economic interests of the country, we feel sure the work would be more liberally supported; and it is not to be overlooked that the law-makers must more or less directly catch their inspiration and learn what is required from the botanists themselves. This is forcibly brought to mind by the bill which is now (April 20) before the House of Representatives, for the annual appropriation for the work of the Department of Agriculture. The Commissioner recommended for botany, including the study of plant diseases, about one-third of the amount named for entomological work, or exclusive of salaries one-fifth as much; while the bill as reported by the committee, and as it now stands (it may be modified before its final passage) gives one-ninth as much, or exclusive of salaries one-fiftieth—that is, admitting that one-half of the one thousand dollars allotted to the support of the "museum and herbarium" will be used for the latter. The urgent necessity for the investigation of plant diseases is ignored; although "the loss from contagious diseases of animals is a mere bagatelle in comparison," as a correspondent puts it, it is liberally provided for, as it should be. Botanical science as a factor in the wealth and welfare of the nation needs more earnest advocates to gain for it the recognition it merits.

THE APPOINTMENT of Mr. Bernhard E. Fernow as chief of the forestry division of the Department of Agriculture seems to have been a move in the right direction. Mr. Fernow, who has had practical and theoretical training as a forester, has already begun actively an attempt to enlist the help of botanists in the study of forest problems. He proposes, as far as possible, to assist those who are working or will work in this line, "and to publish and distribute in

pamphlet form as their work, over their name, such monographs as they may prepare." The plan commends itself to us as a good one, and with proper precautions likely to result in effective work in this division. One investigation, in which almost all botanists can assist, is the contemplated series of phenological observations. Blanks (and further information) can doubtless be obtained by any of our subscribers who will express a desire for them.

OPEN LETTERS.

Seeds of Mentzelia.

Can any botanist send me seeds of Mentzelia ornata, in good condition for germination? JOHN M. COULTER.

Crawfordsville, Ind.

Liquid Glue for mounting plants, etc.

Glue, half pound; acetic acid, half pint. Break the glue into small pieces, put it into the acid and set it on the back part of the stove for a few hours, and then it is always ready for use. Cork it up in a bottle and it will keep any length of time. Good to put the back on books, etc.

Paola, Kan. DR. J. H. OYSTER.

Arrangement of Herbaria, etc.

Professor Beal's inquiry in the April GAZETTE prompts the following reflections:

After a trial of both plans, I have come to use the alphabetical arrangement of genera and species, arranging the orders according to Bentham and Hooker. To facilitate the arrangement in the approved sequence, whenever this becomes temporarily necessary for any order, I pencil the number of both order and genus under the name on the genus-cover, following the Genera Plantarum, thus cc. 4. This arrangement is followed in cryptogams, as well as phænogams, though the numbering is obviously impossible with the former.

An alphabetical or numerical sequence is at best a compromise, for convenience of reference. In an herbarium it is less objectionable than when applied to notes and references. Some eight years ago, when I began an extensive specific subject-index in certain branches of botany, I arranged my cards alphabetically. There is no question but those referring to a given genus are found most readily with this arrangement, but this is not all of the story. In studying the pollination or other biological features of a genus, or the fungi that attack it, it is always necessary to consult the slips on related genera. With the Genera Plantarum before us, we can pick them out, in an alphabetical index, but it is far better to find them in proper sequence, and as rapidly as possible my cards are being arranged according to the natural system. With the experience of Dr. Gray, I am not at all sure that I shall not wish my genus covers were similarly arranged, as his are. However, the task of rearranging them is less onerous than that of rearranging a large index.

A word as to exsiccatæ. Some time since Professor Bessey stated in the *Naturalist* that such collections of fungi as Ellis, Roumeguère and Winter are best divided and the species distributed where they belong, in the herbarium. I think this will ultimately prove a source of annoyance to those who try it, for without a perfect system of cross-references the species of some groups will soon become inaccessible in consequence of the frequent removals they experience from genus to genus in this changeable group. With occasional indexes